

CLAIMS

1. A mining machine including:

a cutting drum,

a plurality of bits mounted on the cutting drum,

a base,

a boom extending between the base and the cutting drum for mounting the drum on the base,

a primary cutting drum turning mechanism attached to the boom and in driving connection with the cutting drum for causing cutting movement of the cutting drum at a cutting drum cutting speed, and

a secondary cutting drum turning mechanism attached to the boom and in driving connection with the cutting drum for causing turning movement of the cutting drum at a speed much less than said cutting drum cutting speed.

2. A mining machine in accordance with Claim 1 wherein said primary cutting drum turning mechanism includes

a gear case attached to the boom,

a cutter motor attached at one end to the gear case and attached to the boom and in driving connection with the cutting drum through the gear case,

a clutch housing mounted on the other end of the motor and including a clutch assembly,

a hollow motor drive shaft supported within said cutter motor,

a torque shaft extending through the hollow shaft and transmits motor power to the gear case, with one end near said gear case and another end opposite the gear case attached to the clutch assembly.

3. A mining machine including:

a cutting drum, a plurality of bits mounted on the cutting drum, a base, a boom extending between the base and the cutting drum for mounting the drum on the base,

a primary cutting drum turning mechanism attached to the boom and in driving connection with the cutting drum for causing cutting movement of the cutting drum at a cutting drum cutting speed, said primary cutting drum turning mechanism including

a gear case attached to the boom,

a cutter motor attached at one end to the gear case and attached to the boom and in driving connection with the cutting drum through the gear case,

a clutch housing mounted on the other end of the motor and including a clutch assembly,

a hollow motor drive shaft supported within said cutter motor, and

a torque shaft extending through the hollow shaft and transmits motor power to the gear case, with one end near said gear case and another end opposite the gear case attached to the clutch assembly and

a secondary cutting drum turning mechanism attached to the boom and in driving connection with the cutting drum for causing turning movement of the cutting drum at a speed much less than said cutting drum cutting speed, said secondary cutting drum turning mechanism comprising an adapter having a shaft and including torque shaft connecting means for connecting said adapter shaft to said torque shaft, and

means for rotating said adapter at a speed significantly slower than said cutting drum cutting speed.

4. A mining machine in accordance with Claim 3 wherein said torque shaft connecting means includes an overrunning clutch.

5. A mining machine in accordance with Claim 3 wherein said means for rotating said adapter at a speed significantly slower than said cutting drum cutting speed comprises a hydraulic motor.